

On page 13, line 14, after "Ec107.", insert --Seq. ID No.

42.--.

IN THE CLAIMS

Please amend the claims as follows.

1. (Amended) [An] The isolated and purified bacterial reverse transcriptase (RT) of claim 13 [which is capable of synthesizing msDNA], which RT [comprises] has a [conserved] sequence of amino acid residues as follows: Tyr-Xaa-Asp-Asp, wherein Xaa [tyrosine, x which] is alanine or cysteine[, and two aspartic acid residues], as shown in Seq. ID No. 4, residues 168-171.

2. (Amended) The bacterial RT of claim 1 which [comprises] has a second [conserved] sequence of amino acid residues as follows: Ser-Xaa-Xaa-Xaa, wherein [serine, [x which] Xaa is a hydrophobic residue selected from the group consisting of valine, phenylalanine, leucine and isoleucine, [x, which] Xaa, is a polar residue selected from the group consisting of threonine, asparagine, lysine and serine and [x₂ which] Xaa, is a hydrophobic residue selected from the group consisting of tryptophan, phenylalanine and alanine, as shown in Seq. ID No. 4, residues 96-99.

3. (Amended) The bacterial RT of claim 2 which [comprises] has a third [conserved] sequence of amino acid residues as follows: Asn-Xaa-Xaa, wherein [asparagine, x which] Xaa is a hydrophobic residue selected from the group consisting of alanine, leucine and phenylalanine and [x, which] Xaa is a hydrophobic residue selected from the group consisting of leucine, valine and isoleucine.

4. (Amended) The bacterial RT of claim 3 which [comprises] has a fourth [conserved] sequence of amino acid residues as follows: Xaa-Val-Thr-Gly, wherein Xaa [x which] is a polar residue selected from the group consisting of arginine, glutamic acid, lysine, valine and glutamine[, a second residue which is valine, a third residue which is threonine and a fourth residue which is glycine], as shown in Seq. ID No. 4, residues 225-228.

5. (Amended) The bacterial RT of claim 1 which has the common subdomains 1 through 7 shown in [Table 5] Figure 14.

6. (Amended) The bacterial RT of claim 1 wherein the [conserved] sequence is located in subdomain 5 shown in [Table 5] Figure 14.

7. (Amended) The bacterial RT of claim 6 which has [a total of] the 61 conserved amino acid residues as shown by black

dots in Figure 14, wherein h is a hydrophobic residue and p is a small polar residue.

12/ 8. (Amended) An isolated and purified bacterial RT which comprises [a] an amino acid sequence [of amino acid residues] selected from the sequences shown in Figure 14, which sequences are shown in Seq. ID Nos. 30-36.

Please add the following claims.

12/ 12. The isolated and purified RT of claim 4 in which the amino acid sequences Tyr-Xaa-Asp-Asp, Ser-Xaa-Xaa₁-Xaa₂, Asn-Xaa-Xaa₁, and Xaa-Val-Thr-Gly are arranged in order starting from the amino-terminal end of the RT.

13. An isolated and purified bacterial reverse transcriptase (RT) which synthesizes msDNA, and which is essential for the synthesis of msDNA in vivo.--

REMARKS

Applicants submit this Amendment in response to the Office Action of March 5, 1996.

Preliminarily, Applicants note that claims 1-11 are currently pending in the application. The Examiner has mistakenly indicated on the Office Action Summary Sheet that claims 1-10 are pending.